

OPERATION OF THE CONOW.  
FISH COLLECTION FACILITY  
SPRING OF 1980

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Prepared For  
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## INTRODUCTION

The Conowingo Dam Fish Collection Facility (hereafter Fish Trap) has been operated since 1972 as part of a cooperative state, private, and federal effort to restore American shad to the Susquehanna River. Early goals of trap operation were to determine the number of American shad that could be collected from the Fish Trap location and to transport as many shad as possible upriver. The current goal is to monitor anadromous fish populations below Conowingo Dam. Operation of the fish trap is under the guidance of the Susquehanna River Anadromous Fish Restoration Cooperative and has been funded by Philadelphia Electric Company. Results of trap operation from 1972 to 1979 were summarized by McGhan (1977, 1978) and RMC (1979).

Objectives of the 1980 operation were to (1) monitor relative abundance of Alosa species in the Conowingo Dam tailrace, (2) monitor species composition of fish in Conowingo Dam tailrace, (3) obtain scale samples from selected anadromous fish species, and (4) collect American shad for radio tagging.

## METHODS

Conowingo Dam is located on the Susquehanna River approximately 10 mi upriver of the confluence with Chesapeake Bay. The fish trap (Figure 1) is at the base of the Dam on the west side of the tailrace adjacent to the power house. Attraction water for the trap is provided by two small turbines (House Units). Discharge from the trap is controlled by flow from these turbines and by adjustable weir gates. Trap design has been described by Kotkas and Robbins (1976) and in the Operation and Maintenance Manual (Anon. 1972).

Trap operation in 1980 was scheduled to begin on 15 April, but high river flows (peak of 144,300 cfs on 16 April) delayed installation of trap motors. Operation began on 23 April but problems with the crowder gate occurred. Operation resumed on 25 April and continued daily through 29 April

in an effort to determine if substantial numbers of alosids were present in the tailrace. Normal operation (every third day) began on 2 May and continued through 13 June. Additional days of operation occurred following any day when 5 or more American shad were collected.

The trap was usually fished one half hour before sunrise to noon. Additional operation occurred whenever one or more shad were taken between 1100-1200 hr. On those days operation continued until no shad were collected for one hour. The trap was also operated at night during 8-9 May in a special effort to collect American shad for radio tracking.

Trap operation was similar to that described in the Operation and Maintenance Manual (Anon. 1972). Fishing time (i.e., time crowder gates were open ranged from 1 to 60 minutes depending upon abundance of fishes; the more fish, the shorter the time. Thirty minute fishing times were most frequently used. An intermediate crowder gate position (12-in. opening) was used throughout the season. The crowder doors were usually closed for 10 to 15 minutes between fishing periods, depending upon abundance of fishes and the time required to process catches.

Attraction velocity and flow were maintained at approximately 6.0 fps and 265 cfs by regulating House Unit discharge and weir gate position. Velocities were checked with a General Oceanics Model 2030 digital flow meter on 3 and 4 June (Table 1). Observed velocities and elevation differentials between the tailrace and the holding channel were inconsistent with results from previous years (Robbins, 1972).

Based on an agreement with the State of Maryland, Susquehanna Electric Company continuously released at least 5,000 cfs from Conowingo Dam from 23 April through 1 June. When the fish trap operated, this flow was usually discharged via the turbine (Unit No. 2) adjacent to the trap in an effort to attract fish to the west side of the tailrace.

Morpholine was released from the fish trap during a 24-hour period every sixth day starting 11 May as indicated in Table 3 and Figure 3. This chemical was used by the Pennsylvania Fish Commission to imprint larval shad reared at their Van Dyke Hatchery (Thompsontown, Pa) and stocked in Susquehanna River tributaries. It was hoped that adults resulting from these introductions would be attracted to the fish trap by morpholine release.

Fishes were processed as described by McGhan (1977). Catches were sorted in a 1.8 x 3.7 x 1.2 m tank supplied with running river water. Most catches were counted or subsampled and released to the tailrace. When mortalities due to dissolved oxygen deficiency were likely, the number of fish of each species was estimated and the catch was released.

American shad were dip netted from the sorting tank into a similar tank supplied with running river water. Healthy, actively swimming fish were either equipped with radio tags, fin clipped (left pelvic fin), or tagged with floy anchor tags. Tagged fish were observed for a short time to determine condition, and healthy individuals were released into the tailrace via a water filled pipe or box. Sex, length and spawning condition were determined and scale samples were taken when possible. Weight was taken only for the few individuals which died prior to release.

Length, weight, sex and scale samples were also taken from blueback herring, alewife, striped bass, and striped bass x white bass hybrid. Common names of fishes (Bailey et al. 1970) are used throughout the text and tables. A list of common and scientific names is given in Table 2.

River flow and temperature at the trap during trap operation are summarized in Figure 2. Flow ranged from 17,800 to 51,000 cfs. It fluctuated among days but generally decreased from April through June. Temperature ranged from 56.0 to 73.5 F and increased steadily through the season.

## RESULTS AND DISCUSSION

In 30 days of fish trap operation, 372,380 fish representing 11 families and 43 species were caught in 403 lifts with a total fishing time of 117 hours (Table 3). Predominate species were gizzard shad (74.1%), channel catfish (10.5%), white perch (7.2%), carp (2.4%), and walleye (1.1%). Anadromous clupeids (alewife, blueback herring, American shad, and hickory shad) comprised 0.2% of the total catch. No American shad and relatively few resident fishes were collected during the one night time effort (Table 3) on 8-9 May 1980.

The clupeid catch has steadily declined since 1973 when anadromous clupeids comprised 35.1% of the total. In 1980, there was no substantial run of blueback herring and the collection of herring per lift never exceeded 60. The total catch of alewife (9) was the same as in 1979. This is the third consecutive year that fewer than 10 alewife were captured. This catch has declined from 143,880 alewife in 1973. One hickory shad was present in the 1980 catch. This was the first time it has been taken in the facility since 1975.

A total of 139 American shad was collected between 23 April and 13 June (Table 3, Figure 3). Four of these had been previously captured and marked at the trap. One fish radio tagged on 11 May was recaptured on 7 June. A second fish was floy tagged on 11 May and recaptured on 10 June. The third fish was floy tagged on 31 May and recaptured on 3 and 7 June. Twelve shad were successfully radio tagged and released.

Two peaks in catch of American shad occurred (Figure 3). The first occurred in late April at water temperatures of 58 to 59 F and flows of 37,800 to 42,000 cfs. The second peak occurred in late May and early June at water temperatures of 67 to 73.5 F and flows of 17,800 to 32,300 cfs. A similar pattern of shad catch was reported in previous years.

Life history data and scale samples were obtained from 132 American shad, 201 blueback herring, 5 alewife, 87 striped bass, and 216 striped bass x white bass hybrids.

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Table 1. Summary of hydraulic measurements made at the Conowingo Dam Fish Collection Facility,  
3-4 June 1980.

Discharge (cfs)	Velocities (ft/s)				Difference in Elevation (ft) Between Tailrace and Holding Channel
	Weir Gate Setting (ft)	Holding Channel	Weir Gate 1	Weir Gate 2	
265	5.1	1	6-7	5-6	1.2-1.5
360	4.5	2	8	8	2.5

Table 2. List of scientific and common names of fishes collected in the Conowingo Dam Fish Collection Facility, 1980 (according to Bailey, et al., 1970).

Scientific Name	Common Name	Scientific Name	Common Name
Family - Petromyzontidae	Lampreys	Family - Ictaluridae	Freshwater catfishes
<u>Petromyzon marinus</u>	Sea lamprey	<u>Ictalurus catus</u>	White catfish
Family - Anguillidae	Freshwater eels	<u>Ictalurus natalis</u>	Yellow bullhead
<u>Anguilla rostrata</u>	American eel	<u>Ictalurus nebulosus</u>	Brown bullhead
Family - Clupeidae	Herrings	<u>Ictalurus punctatus</u>	Channel catfish
<u>Alosa aestivalis</u>	Blueback herring	Family - Percichthyidae	Temperature basses
<u>Alosa mediocris</u>	Hickory shad	<u>Morone americana</u>	White perch
<u>Alosa pseudoharengus</u>	Alewife	<u>Morone saxatilis</u>	Striped bass
<u>Alosa sapidissima</u>	American shad	<u>M. saxatilis</u> x <u>M. chrysops</u>	Striped bass x white bass
<u>Brevoortia tyrannus</u>	Atlantic menhaden	Family - Centrarchidae	Sunfishes
<u>Dorosoma cepedianum</u>	Gizzard shad	<u>Ambloplites rupestris</u>	Rock bass
Family - Salmonidae	Trouts	<u>Lepomis auritus</u>	Redbreast sunfish
<u>Salmo gairdneri</u>	Rainbow trout	<u>Lepomis cyanellus</u>	Green sunfish
<u>Salmo trutta</u>	Brown trout	<u>Lepomis gibbosus</u>	Pumpkinseed
<u>Salvelinus fontinalis</u>	Brook trout	<u>Lepomis macrochirus</u>	Bluegill
<u>S. fontinalis</u> x <u>S. namaycush</u>	Splake	<u>Micropterus dolomieu</u>	Smallmouth bass
Family - Esocidae	Pikes	<u>Micropterus salmoides</u>	Largemouth bass
<u>Esox lucius</u>	Northern pike	<u>Pomoxis annularis</u>	White crappie
<u>Esox masquinongy</u>	Muskellunge	<u>Pomoxis nigromaculatus</u>	Black crappie
<u>E. masquinongy</u> x <u>E. lucius</u>	Tiger muskie	Family - Percidae	Perches
Family - Cyprinidae	Minnows and carps	<u>Perca flavescens</u>	Yellow perch
<u>Cyprinus carpio</u>	Carp	<u>Stizostedion vitreum</u>	Walleye
<u>Nocomis biguttatus</u>	River chub		
<u>Nocomis biguttatus</u>	Golden shiner		
<u>Nocomis biguttatus</u>	Comely shiner		
<u>Notropis amoenus</u>	Spottail shiner		
<u>Notropis hudsonius</u>	Spotfin shiner		
<u>Notropis spilopterus</u>	Suckers		
Family - Catostomidae	Quillback		
<u>Carpiodes cyprinus</u>	White sucker		
<u>Catostomus commersoni</u>	Northern hog sucker		
<u>Hypentelium nigricans</u>	Shorthead redhorse		
<u>Notostoma macrolepidotum</u>			

TABLE 3.  
YEARS OF FISH TAKEN DAILY AT THE  
COMANCHO DAM FISH COLLECTION FACILITY - 23 APRIL TO 13 JUNE 1980.

DATE	04/23/80	04/25/80	04/26/80	04/27/80	04/28/80	04/29/80	05/02/80	05/05/80
NO. LIFTS	9	16	12	16	10	11	11	13
FIRST LIFT	545	515	525	525	520	522	505	443
LAST LIFT	932	1405	1153	1340	1140	1159	1151	1158
OPERATING TIME (HRS)	3.78	6.83	6.55	10.33	6.33	6.50	6.77	7.17
FISHING TIME (HRS)	1.07	5.03	3.52	3.83	3.42	4.35	4.09	4.38
AIR RIVER FLOW (KCF)	51.0	42.0	37.9	37.8	37.5	43.3	98.2	57.9
AIR WATER TEMP. (F)	50.0	59.0	59.0	59.0	58.0	63.0	57.0	58.0
MORPHOLINE USED?	NO	NO	NO	NO	NO	YES	NO	YES
AMERICAN EEL	3	2	10	1	5	-	13	4
BLUESACK PERCH	-	1	-	-	-	-	-	-
HICKORY SHAD	-	-	-	-	-	-	-	-
ALEWIFE	-	1	1	22	2	-	2	2
AFRICAN SHAD	-	3	-	-	-	-	-	-
GIZZARD SHAD	7,336	5,440	6,538	26,382	5,565	2,916	1,822	9,434
ATLANTIC MENHADEN	-	-	-	-	-	-	-	-
RAINBOW TROUT	-	2	9	-	4	1	9	4
BROWN TROUT	-	-	-	-	-	2	-	2
BASS TROUT	-	-	-	-	1	1	-	-
ROCK TROUT	-	-	-	-	-	-	-	-
NORTHERN PINE	1	-	1	-	5	-	-	3
MUSKELLUNG	13	283	5	34	258	10	20	304
CARP	-	-	-	-	-	1	-	-
RIVER CHUB	-	-	-	-	-	-	-	-
GOLDEN SHINER	-	-	-	1	-	-	-	-
COWLEY SHINER	-	-	-	-	-	-	-	-
SPOTTAIL SHINER	-	25	-	63	-	-	-	-
SPOTFIN SHINER	-	-	-	-	-	-	-	-
QUILLBACK	4	274	12	30	30	12	-	70
WHITE SUCKER	22	196	51	157	104	65	30	64
NORTHERN HORN SUCKER	-	-	-	-	-	3	-	-
SOUTHERN HORN SUCKER	6	174	40	81	33	35	14	65
WHITE CATFISH	-	1	1	-	-	-	-	-
YELLOW BULLHEAD	-	1	1	-	-	-	-	-
BROWN BULLHEAD	-	1	2	-	-	4	-	-
CHANNEL CATFISH	286	335	249	209	103	735	571	2,520
WHITE PERCH	10	157	533	56	25	60	19	56
STRIPED BASS	-	-	-	-	-	-	-	-
ROCK BASS	-	-	-	1	-	-	-	-
PULPHEAD SUNFISH	-	-	1	-	-	1	-	-
GREEN SUNFISH	-	-	-	-	-	-	-	-
PUPPINSSEED	-	-	-	-	-	-	-	-
FLUGGILL	-	-	-	-	-	-	-	-
SMALLMOUTH BASS	2	8	2	4	15	3	-	22
LARGEMOUTH BASS	-	5	-	-	-	-	-	-
WHITE CRAPPIE	-	1	-	-	-	-	-	-
BLACK CRAPPIE	-	-	-	-	-	-	-	-
YELLOW PERCH	-	1	20	-	-	-	-	-
WALLEYE	38	86	53	105	43	71	4	50
SEA LAMPREY	-	-	-	-	-	-	-	-
STRIPED BASS X WHITE BASS	2	3	4	-	-	-	1	6
TIGER MUSKIE	-	-	-	-	-	-	-	-
SPLAKE	-	-	-	-	-	-	-	-
=====	7,705	7,009	7,594	27,152	6,209	3,927	2,504	12,513

TABLE 3 (CONT.)

DATE	05/08/80	05/09/80	05/11/80	05/12/80	05/14/80	05/17/80	05/20/80	05/23/80
NO. LIFTS	15	11	14	14	14	15	15	14
FIRST LIFT	440	2240	443	445	450	435	420	436
LAST LIFT	1125	420	1305	1145	1150	1118	1242	1155
OPERATING TIME (HRS)	6.75	5.67	8.17	7.02	7.03	7.05	3.37	7.32
FISHING TIME (HRS)	2.07	3.58	4.00	4.63	3.17	3.25	3.93	3.75
AVE RIVER FLOW (MFS)	32.0	30.4	33.5	30.9	57.2	49.0	38.6	40.0
AVE WATER TEMP. (F)	64.8	64.0	64.0	64.5	63.0	65.0	65.5	65.0
MORPHOLINE USED?	NO	NO	YES	NO	NO	YES	NO	YES
AMERICAN EEL	-	1	10	20	14	15	15	1
BULLHEAD	-	1	11	-	1	-	1	1
PICKEREL SHAD	-	-	-	-	-	-	-	-
ALEWIFE	-	-	-	-	-	-	-	-
AMERICAN SHAD	-	-	7	-	4	3	4	5
GIZZARD SHAD	18,060	2975	19,704	12,408	15,300	9,245	13,813	11,433
ATLANTIC MENHADEN	-	-	-	-	-	-	-	-
RAIBLOW TROUT	3	-	-	-	-	-	-	-
BROWN TROUT	20	4	2	24	11	1	8	5
BROCK TROUT	-	-	-	-	-	-	-	-
MOUTHERN PIKE	-	-	-	-	-	-	-	-
MUSKELLUNGE	1	-	3	-	-	-	-	-
CARP	432	2	-	76	156	508	336	554
RIVER CHUB	-	-	-	-	-	-	-	-
GOLDEN SHINER	-	-	1	-	-	6	-	-
COWLEY SHINER	-	-	-	-	-	-	-	-
SPOTTED SHINER	-	-	-	-	-	-	-	-
SPOT-TAIL SHINER	-	-	-	-	-	-	-	-
CHUBBIE	132	-	16	-	32	18	32	55
WHITE SUCKER	30	5	10	8	2	69	8	23
NORTHERN HOG SUCKER	-	-	-	-	-	-	-	-
SHORTNOSE HORSE	53	2	4	24	20	67	116	57
WHITE CATFISH	-	2	8	20	10	16	136	4
YELLOW BULLHEAD	-	-	-	-	-	-	-	-
CHANNEL CATFISH	4,780	5,057	24	26	6	14	118	1
WHITE PERCH	5,240	189	1,827	920	774	817	718	13
STRIPED BASS	-	-	3,207	1,228	902	1,090	598	1,380
ROCK BASS	-	-	-	-	-	-	-	875
REDBREAST SUNFISH	-	-	-	10	10	43	50	20
GREEN SUNFISH	-	-	-	-	-	-	-	-
PUMPKINSEED	-	-	-	-	10	-	-	-
BLUEGILL	-	-	-	-	10	-	-	-
SMALLMOUTH BASS	103	10	11	35	4	48	52	20
LARGEMOUTH BASS	4	-	-	-	-	21	2	13
WHITE CRAPPIE	-	-	1	-	-	-	1	-
BLACK CRAPPIE	-	-	-	-	50	-	-	-
YELLOW PERCH	-	-	-	-	-	4	-	-
ALLEY	171	56	42	104	35	86	218	138
SEA LAMPREY	-	-	-	-	-	-	-	-
STRIPED BASS X WHITE BASS	-	-	-	-	-	-	-	-
TIGER MUSKIE	-	-	-	-	-	-	-	-
SPLAKE	-	-	-	-	-	-	-	-
TOTAL	29,043	8,305	24,977	14,915	17,359	12,073	16,246	14,633

TABLE 3 (CONT.)

	DATE	05/24/80	05/25/80	05/27/80	05/29/80	05/30/80	05/31/80	06/01/80	06/02/80
NO. LIFTS	14	17	11	10	17	11	11	11	10
FIRST LIFT	443	432	443	445	430	430	433	430	430
LAST LIFT	1153	1336	1148	1152	1236	1253	1220	1129	1129
OPERATING TIME (HRS)	7.22	9.05	7.03	7.12	9.10	7.55	7.79	6.97	6.97
FISHING TIME (HRS)	4.00	4.67	3.33	2.47	3.92	3.42	5.33	4.58	4.58
AVE RIVER FLOW (KCF/S)	37.8	32.3	26.6	23.1	20.3	22.2	19.8	18.2	18.2
AVE WATER TEMP. (F)	65.0	67.0	64.0	68.3	70.0	71.5	70.0	70.0	70.0
MORPHOLINE USED?	NO	NO	NO	YES	NO	NO	NO	NO	NO
AMERICA EEL	2	13	12	12	52	23	15	31	31
BLUEBACK HERRING	17	57	10	12	1	1	25	1	1
HICKORY SHAD	-	-	-	-	-	-	-	-	-
ALESIFE	-	-	-	-	-	-	-	-	-
AMERICA SHAD	-	10	1	14	8	2	19	5	5
GIZZARD SHAD	10,675	15,848	2,549	11,778	8,042	7,748	3,633	733	733
ATLANTIC MENHADEN	-	-	-	-	-	-	-	-	-
RAINBOW TROUT	-	-	-	-	-	-	-	-	-
BROWN TROUT	16	6	5	12	-	47	2	14	14
BLACK TROUT	-	-	-	-	-	-	-	-	-
WINTER PIKE	-	-	-	-	-	-	-	-	-
MUSKELLUNGE	1	3	1	1	1	1	2	1	1
CARP	10	44	442	2,095	2,182	124	34	230	230
RIVER CHUB	-	-	-	-	-	-	-	-	-
GOLDEN SHINER	-	-	7	8	-	-	-	-	-
COMELY SHINER	-	-	500	20	60	60	1	200	200
SPIRITAIL SHINER	-	-	501	20	40	40	90	200	200
SPOFFIN SHINER	-	-	-	-	-	-	-	-	-
GULLEBACK	-	-	303	420	274	368	20	314	314
WHITE SUCKER	8	73	35	120	25	17	4	2	2
WINTER HOG SUCKER	-	-	-	-	-	-	-	-	-
STARHEAD RECHORSE	23	96	47	216	85	53	29	2	2
WHITE CATFISH	-	18	53	21	66	15	7	19	19
YELLOW BULLHEAD	-	-	-	-	-	-	-	-	-
BROWN BULLHEAD	10	5	113	5	110	97	6	29	29
GRAPNEL CATFISH	252	1,519	694	2,156	2,456	626	403	394	394
WHITE PERCH	422	1,175	423	574	1,744	1,550	643	1,205	1,205
STRIPED BASS	21	18	24	24	10	10	10	2	2
ROCK BASS	4	-	-	-	3	19	-	-	-
RED BASS	24	101	156	103	97	105	111	72	72
RED BASS SUNFISH	-	-	15	-	-	-	-	-	-
GREEN SUNFISH	-	-	15	-	-	-	-	-	-
PUMPKINSEED	-	45	66	5	10	33	11	25	25
BLUESILL	-	73	112	90	23	44	43	52	52
SMALLMOUTH BASS	11	51	8	53	3	10	36	2	2
LARGEMOUTH BASS	4	4	5	4	-	1	12	2	2
WHITE CRAPPIE	-	-	-	-	-	-	-	-	-
BLACK CRAPPIE	-	-	-	-	-	-	-	-	-
YELLOW PERCH	-	-	-	-	-	-	-	-	-
ALLEY	94	183	161	290	387	204	295	44	44
SEA LAMPREY	-	-	-	-	-	-	-	-	-
STRIPED BASS X WHITE BASS	23	27	51	132	133	113	147	143	143
TIGER MUSKIE	1	1	1	1	1	3	1	4	4
SPLANE	11,624	19,375	6,362	15,338	15,765	11,386	5,932	4,215	4,215

TABLE 3 (CONT.)

DATE	06/03/80	06/04/80	06/07/80	06/08/80	06/10/80	06/13/80	TOTALS
NO. LIFTS	21	16	16	11	13	10	403
FIRST LIFT	407	416	410	413	405	420	-
LAST LIFT	1157	1210	1245	1200	1200	1145	222-13
OPERATING TIME (HRS)	7.93	7.90	8.58	7.78	7.92	7.42	(116.99)
FISHING TIME (HRS)	2.93	4.08	5.17	5.46	3.92	4.25	-
AVE RIVER FLOW (KCF/S)	19.4	19.0	18.8	21.3	17.8	21.5	-
AVE WATER TEMP. (F)	73.0	73.0	73.5	73.5	73.5	72.0	-
MOPPHOLINE USED?	NO	YES	NO	NO	YES	NO	-
AMERICAN EEL	64	12	2	9	13	10	377
BLUEBACK HERRING	122	23	162	13	25	9	502
HICKORY SHAD	-	-	-	-	-	-	1
ALEWIFE	-	-	-	-	-	-	9
AMERICAN SHAD	14	4	8	2	3	-	139
WILLAMETTE SHAD	21,052	8,442	3,473	836	6,505	6,053	275,724
ATLANTIC MENHADEN	-	-	16	-	-	-	16
RAINBOW TROUT	-	1	-	-	-	-	23
BROOK TROUT	2	27	2	-	-	5	253
NORTHERN PIKE	-	-	-	-	-	-	4
WASKELUANG	2	-	1	-	-	-	3
CARP	63	271	8	137	236	5	8,879
RIVER CHUB	-	-	-	-	-	-	1
GOLDEN SHINER	-	-	9	-	-	3	35
COWLEY SHINER	-	-	-	-	-	-	761
SPOTTAIL SHINER	-	-	-	-	-	-	849
SPOTTEIN SHINER	4	-	-	-	20	-	314
COILBACK	20	75	9	404	-	-	2,929
WHITE SUGAR	-	13	-	4	-	-	1,145
NORTHERN HOG SUGAR	-	2	-	-	-	-	13
SPOTTHEAD REDHORSE	9	10	5	-	12	-	1,394
WHITE CATFISH	-	14	49	55	22	69	605
YELLOW BULLHEAD	-	10	-	-	5	-	18
PAVAN BULLHEAD	10	10	15	10	22	35	675
CHANNEL CATFISH	2,385	1,609	815	1,552	717	2,095	38,929
WHITE PERCH	1,830	478	678	1,425	170	219	26,971
STRIPED BASS	117	69	213	150	37	84	804
ROCK BASS	2	-	5	-	1	1	9
REDBREAST SUNFISH	61	139	198	61	51	105	1,524
GREEN SUNFISH	-	-	-	-	-	1	16
POCKINSEED	46	43	25	48	30	69	445
BLUEGILL	30	69	97	35	37	96	942
SMALLMOUTH BASS	-	1	15	9	-	-	453
LARGemouth BASS	-	1	1	1	-	-	41
WHITE CRAPPIE	-	1	12	10	-	-	100
BLACK CRAPPIE	-	-	4	-	-	-	15
YELLOW PERCH	4	11	18	24	2	4	373
ALLEY	236	103	150	371	117	75	4,153
SEA LAMPREY	-	-	-	-	-	-	1
STRIPED BASS & WHITE BASS	237	134	602	345	84	85	2,674
TIGER MUSKIE	3	-	2	1	-	-	34
SPLAKE	-	-	-	-	-	-	1
	=====	=====	=====	=====	=====	=====	=====
	26,313	11,569	6,599	5,533	8,104	9,027	372,380

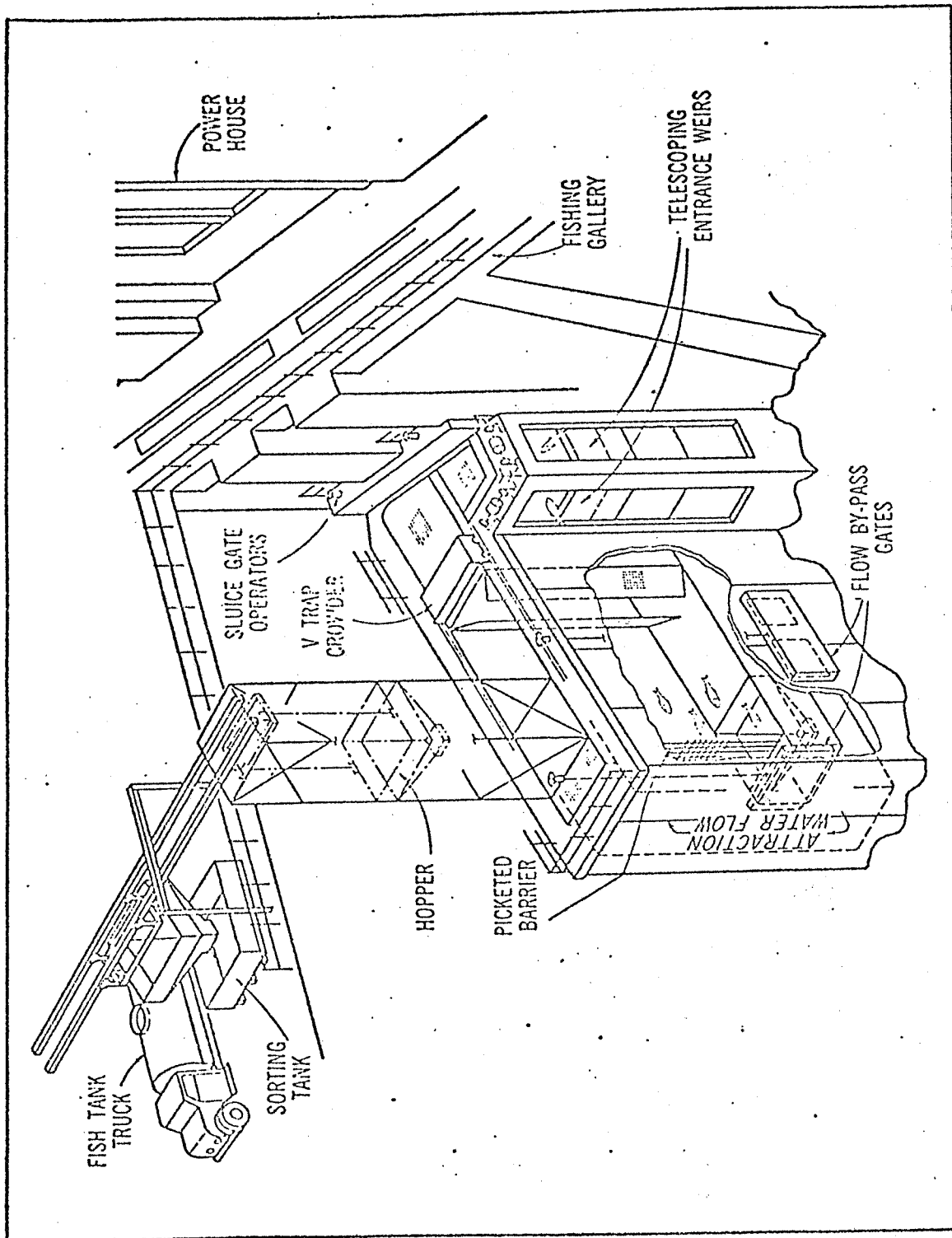


FIGURE 1

Schematic drawing of Conowingo Dam Fish Collection Facility, Anonymous (1972).

FIGURE 2

River flow (F) and water temperature (T) at Conowingo Dam Fish Collection Facility,  
15 April-15 June 1980.

